

C. O. GREENE.

MODE OF PREVENTING THE CORROSION OF CAST IRON VESSELS.

No. 77,186.

Patented Apr. 28, 1868.

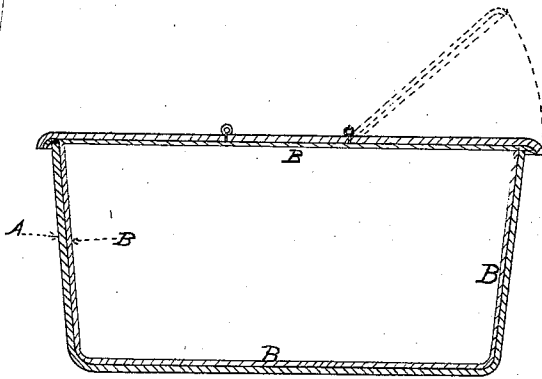


Fig. 1.

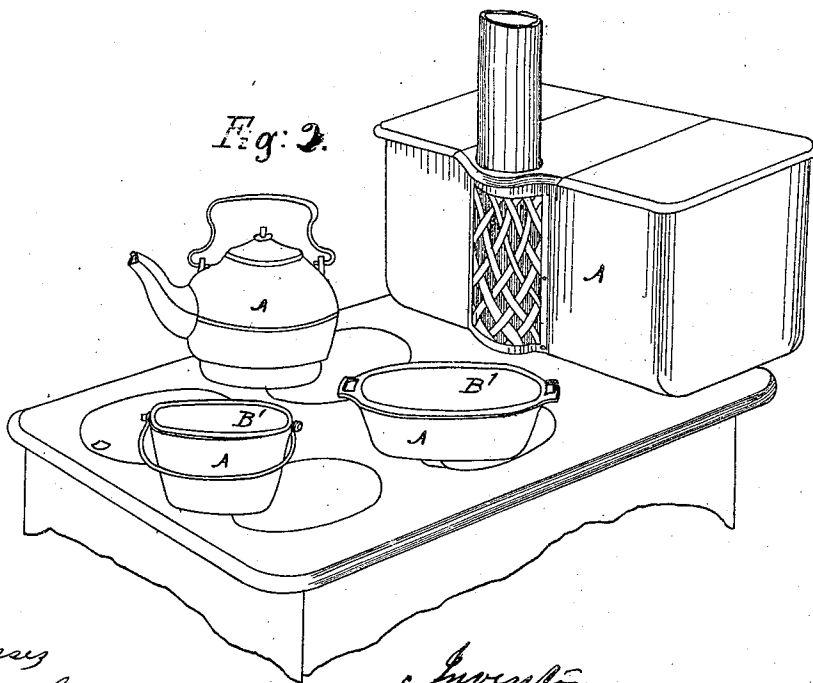


Fig. 2.

Witnesses
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CHAUNCEY O. GREENE, OF TROY, NEW YORK.

Letters Patent No. 77,186, dated April 28, 1868.

IMPROVED MODE OF PREVENTING THE CORROSION OF CAST-IRON VESSELS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHAUNCEY O. GREENE, of the city of Troy, in the county of Rensselaer, and State of New York, have invented a certain new and useful Improvement in Cast-Iron Culinary Vessels, the object of which invention is to prevent corrosion within the said vessels; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, forming a part of this specification, in which—

Figure 1 is a sectional view of a water-reservoir or boiler, and showing my improvement, and

Figure 2 is a perspective view, and showing some of the culinary vessels to which my invention is applicable.

The nature of my said invention consists in the application of linseed-oil, or of equivalent oils, to the interior surfaces of cast-iron culinary vessels, and then subjecting them to the action of heat until a part of the oil is absorbed by the metal, and the residue is condensed and hardened thereon in such a manner as to form a durable anti-corrodible coating or enamelled lining, which protects said vessels from corrosion by the continued action of cold or of boiling-hot water when in culinary or other uses.

That others skilled in the art may apply to use my invention aforesaid, and make the said improved article of cast-iron vessels, I now proceed to fully describe the same, as follows:

The castings of said iron vessels, A, are first well cleaned by scraping or scouring them free of the sand or cinder adhering to them from the sand-moulds in which they are cast; then the interior part or surface of said vessels is brushed or coated over with boiled or inspissated linseed-oil, or any oils possessing the equivalent properties of drying and condensing by the action of heat, boiled linseed-oil, however, being preferable. I sometimes, as in cold weather, warm or heat the said vessels previous to applying the oil, to expand the pores, so that the oil may take better hold therein. The said iron vessels, as thus prepared or coated with oil, are next placed and arranged upon racks or supports within any suitable oven or kiln, in such a manner that a drying, evaporating, baking, and hardening heat, of temperatures of about 600°, more or less, may circulate around and within the said iron vessels, to thereby inspissate, dry, bake, and harden the coat of oil thereon, so as to form thereof a hard, durable, protective, enamelled lining of oil, substantially as shown by the brown lines B and shading B' in the annexed drawings, and such as fully capable of resisting the corrosive action of hot or cold water which the said vessels may contain in culinary or other uses.

In the larger kinds of vessels, such as hot-water reservoirs, or water-boilers for cooking-stoves or ranges, the aforesaid process is repeated, so as to give a thicker or double coat of hardened oil to said vessels, which generally forms a sufficient and durable protection against corrosion, but if still thicker coating of hardened oil is wanted, the process is to be again repeated until the desired thickness of coat is obtained.

By the aforesaid process, an improved and durable article of cast-iron vessels for culinary uses is produced, and at a cost less than that of the ordinary porcelain-enamelled cast-iron vessels, or of the zincked or tinned-iron vessels now in public use for such purposes, and of a kind, too, in which the anti-corrosive lining-coat does not crack out or scale off, as it is liable to do in the porcelain-lined vessels; and also, the water held in these improved cast-iron vessels does not finally get at the iron to corrode it, as it does in the zincked or tinned vessels through the minute openings left in a lining coat of tin or zinc; but the lining-coat of oil baked therein, in all ordinary culinary uses, or for heating and holding water, remains perfect as a preventive of corrosion.

What I claim as my invention, and desire to secure by Letters Patent, is—

As a new manufacture, the improved article of cast-iron vessels, as described herein, and having their interior surfaces prepared or lined by the application thereto of oil and heat, thereby forming a hard, durable lining-coat therein, in the manner substantially as set forth, and by which said vessels are made non-corrodible, as described.

CHAUNCEY O. GREENE.

Witnesses:

J. J. SAVAGE,

AUSTIN F. PARK.